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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/680,379	10/06/2003	Hagen Klauk	MUH-12807	5870

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LERNER GREENBERG STEMER LLP
P O BOX 2480
HOLLYWOOD, FL 33022-2480

EXAMINER

CHACKO DAVIS, DABORAH

ART UNIT PAPER NUMBER

1756

DATE MAILED: 08/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/680,379

Applicant(s)

KLAUK ET AL.

Examiner

Daborah Chacko-Davis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) 16-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-15, are rejected under 35 U.S.C. 102(b) as being anticipated by U. S. Patent No. 5,942,374 (Smayling).

Smayling, in the abstract, in col 1, lines 58-67, in col 2, lines 1-16, in col 5, lines 21-67, discloses a method of doping an organic conductive layer wherein a substrate is coated with a polyimide, and doped with a dopant gas followed by exposure through a mask to radiation so as to form a doped region (fixing the doping substance in the polyimide layer via a covalent bond, i.e., conjugated sequences of single and double bond, the doped region becomes conducting). Smayling, in col 10, lines 12-17, discloses that the remaining portion (less doped, residual dopant) of the mask layer (polyimide or PR) is removed. Smayling, in col 6, lines 56-67, discloses a gate electrode provided with a layer that is less transmissive (a more absorbing layer, light opaque regions) above the gate electrode resulting is a less irradiated region (unexposed sections). Smayling, in col 5, lines 35-42, discloses that the organic layer is heavily irradiated so as to form a doped and undoped region in the polyimide layer such that the source and drain regions are in electrical contact with the doped portion of the doped polyimide region having increased electricity (see figure 1, current flows from

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reference 18 to reference 20 via channel reference 24). Smayling, in col 1, lines 57-67, in col 2, lines 1-17, in col 4, lines 1-54, discloses that the substrate is transparent to radiation (glass), forming source region, drain region spaced apart from the gate region, forming a gate dielectric (gate insulating region) positioned spaced apart from the source and drain regions and spaced apart from the gate electrode, wherein the source, the drain, the gate insulator, the gate electrode are spaced apart with the organic semiconducting layer (claims 1-3, 6-9, 12). Smayling, in col 5, lines 43-49, in col 7, lines 1-8, discloses that the exposure is performed section by section (selectively scan one portion at a time) (claims 4, 10-11). Smayling, in col 6, lines 56-58, discloses that the exposure is performed through a mask (claim 5). Smayling, in col 1, lines 65-67, in col 2, lines 1-3, discloses that the source region, the drain region and the gate region are simultaneously formed on the substrate (claim 13). Smayling, in col 10, lines 60-67, discloses that the gate insulating material includes material transparent to radiation (transmissive regions, reference 20a of layer 16, see figure 15) (claims 14-15).

Response to Arguments

3. Applicant's arguments filed June 10, 2006, have been fully considered but they are not persuasive. The 102 rejection made in the previous office action (paper no. 0313) has been maintained.

A) Applicants argue that Smayling does not disclose removing unbounded doping substance from the organic compound after the exposure.

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Smayling, in col 10, lines 1-17, discloses that after the exposure to the dopant gas, the mask oxide layer is removed, i.e., the portions underlying the oxide mask portions remains undoped i.e., the unbounded doping substance is removed.

B) Applicants argue that Smayling does not teach the exact positional doping which is achieved by removing the unbounded dopant by elevated temperature and reduced pressure.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., removing the unbounded dopant by elevated temperature and reduced pressure) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Furthermore, Smayling removes the dopant in the undesired areas (unbounded dopant) by etching the masked oxide portions leaving behind the undoped underlying portion corresponding to the masked oxide portion.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daborah Chacko-Davis whose telephone number is (571) 272-1380. The examiner can normally be reached on M-F 9:30 - 6:00. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark F Huff can be reached on (571) 272-1385. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

dcd

August 18, 2006.



JOHNA. MCPHERSON
PRIMARY EXAMINER